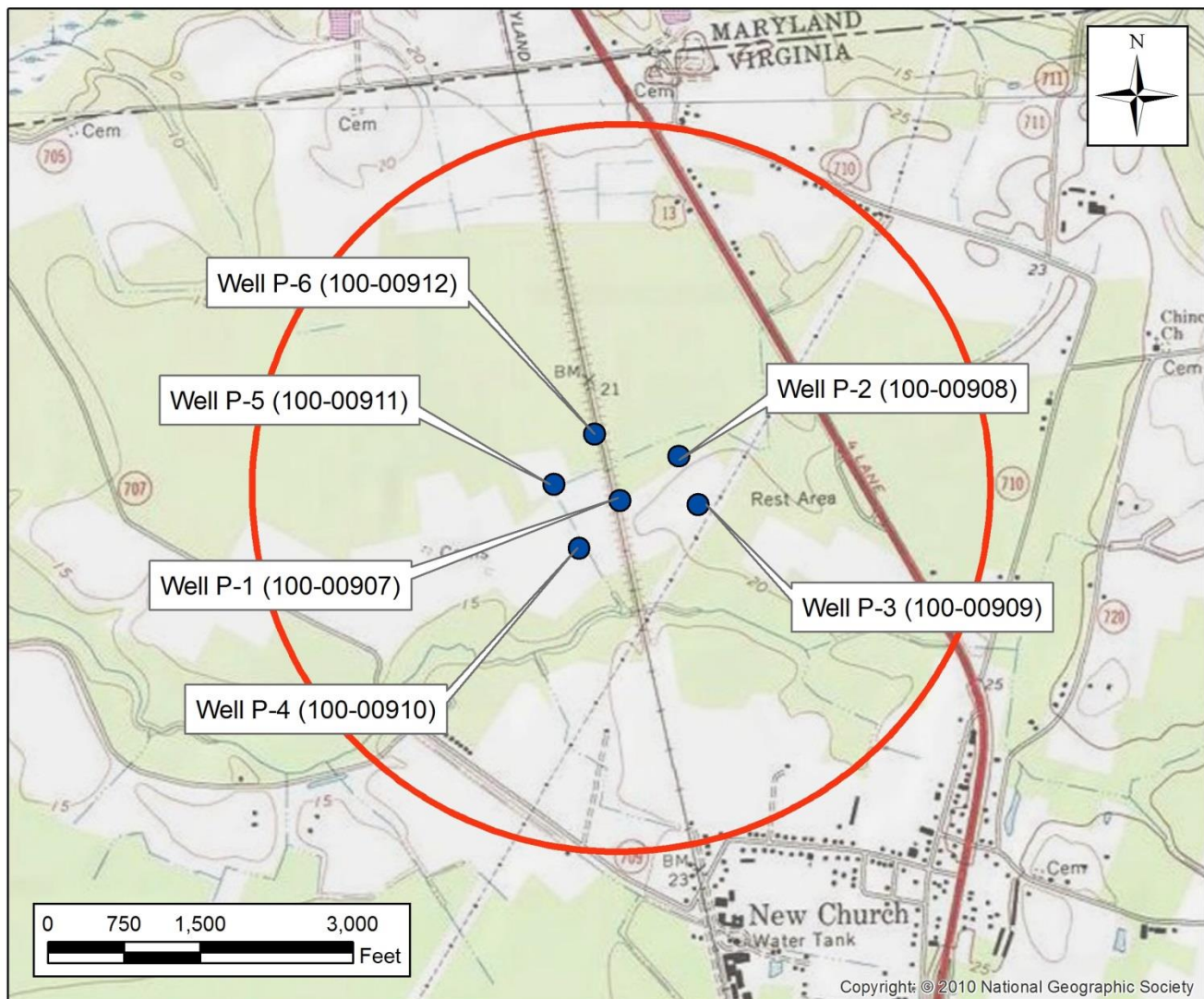


Commonwealth Chesapeake Company, L.L.C.

Area of Impact - Columbia Aquifer



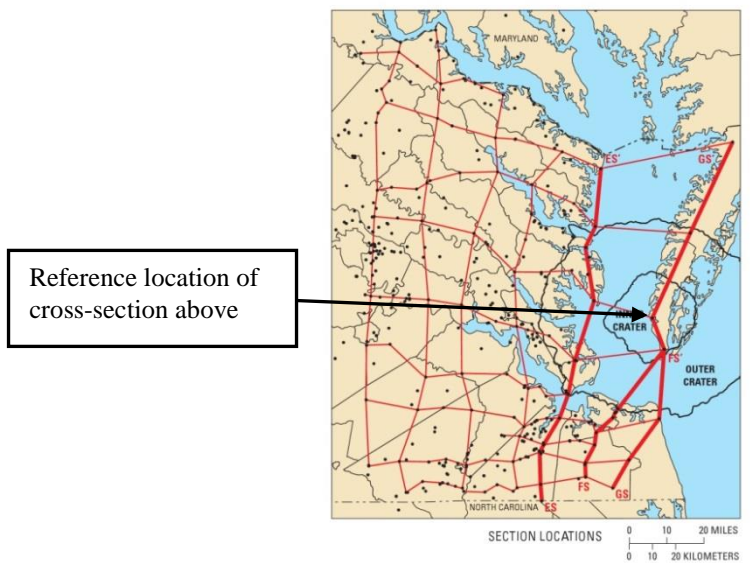
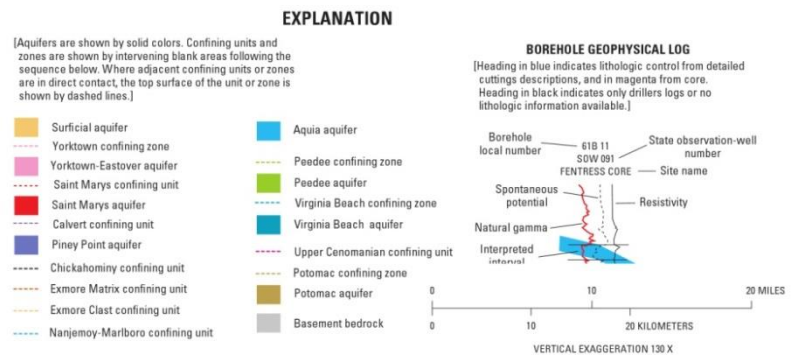
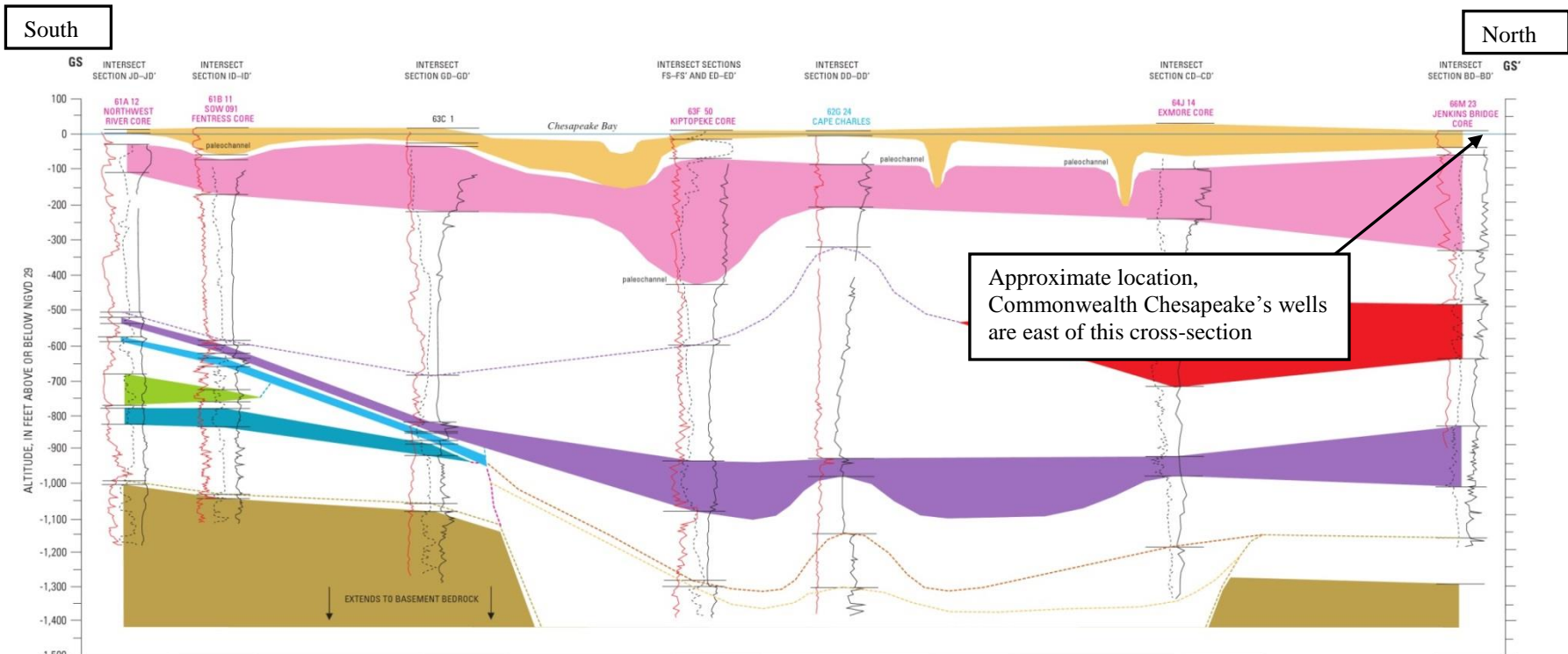
● Commonwealth Chesapeake's Production Wells

○ Columbia Aquifer Area of Impact

Simulated drawdown at or exceeding one foot in the Columbia aquifer resulting from a 2-dimensional analytical simulation (Neuman) of a 10 year lump sum of 249,000,000 gallons simulated for 4 years at 61,400,000 gallons per year followed by 9 days at 10,800,000 gallons per month from the Columbia aquifer. Maximum radius of one-foot drawdown (Area of Impact) occurs 3,640 from the pumping center.

Technical evaluation performed by Aquaveo, LLC for the Virginia DEQ, Office of Surface and Ground Water Supply Planning August 28, 2013





Coastal Plain (2006) Cross-Sections GS-GS' from USGS Professional Paper 1731.